Appendix I

Summary of Project Features

Item	J.C. Boyle Development	Copco No. 1 Development	Copco No. 2 Development	Iron Gate Development
General Information				
Owner of the Dam	PacifiCorp	PacifiCorp	PacifiCorp	PacifiCorp
Purpose	Hydropower	Hydropower	Hydropower	Hydropower
Completion Date	1958	1918	1925	1962
Dam Location (river mile)	224.7	198.6	198.3	190.1
Powerhouse Location (river mile)	220.4	198.5	196.8	190.0
Structural Features of the Dams				
Dam Type	Earthfill	Concrete	Concrete	Earthfill
Dam Height (ft)	68	126	33	173
Dam Length (ft)	693	415	278	740
Spillway Length (ft)	115	182	130	685
Number of Spill Gates	3	13	5	0
Spill Gate Type	Tainter	Tainter	Tainter	Ungated
Spillway Crest (ft msl)	3781.5	2593.5	2454.0	2328.0
Spillway Apron (ft msl)	3763.5	2483.0	2452.0	2164.0
Gross Head (ft) at Spillway	18	111	21	164
Spillway Energy Dissipaters	Yes	Yes	No	Yes
Upstream Fish Passage Ladders	Yes	No	No	No[b]
Reservoir Information				
Distance to Upstream Dam (miles)	5.6	26.1	0.3	8.2
Reservoir Length (miles)	3.6	4.5	0.3	6.8
Maximum Surface Area (acres)	420	1,000	40	944
Normal Maximum Depth (ft) from	41.7	115.5	28	162.6
Normal Maximum Operating Surface Elevation (ft msl)	3,793	2,607.5	2,483.0	2,328.0
Nominal Total Storage Capacity (ac-ft)	3,495	46,867	73	58,794
Current (2001-2002) Estimate of Gross Storage Capacity	NA	33,724	NA	50,941
Average Flow (cfs)	1,511	1,885	1,885	1,852

Item	J.C. Boyle Development	Copco No. 1 Development	Copco No. 2 Development	Iron Gate Development
Reservoir Information				
Reservoir Common Name	J.C. Boyle Reservoir	Copco Reservoir	Copco No. 2 Reservoir	Iron Gate Reservoir
Distance to Upstream Dam (miles)	5.6	26.1	0.3	8.2
Reservoir Length (miles)	3.6	4.5	0.3	6.8
Maximum Surface Area (acres)[c]	420	1,000	40	944
Normal Maximum Depth (ft) from	41.7	115.5	28	162.6
Normal Maximum Operating Surface Elevation (ft msl)	3,793	2,607.5	2,483.0	2,328.0
Nominal Total Storage Capacity (ac-ft)	3,495	46,867	73	58,794
Current (2001-2002) Estimate of Gross Storage Capacity	NA	33,724	NA	50,941
Average Flow (cfs)	1,511	1,885	1,885	1,852
Power Generation Features				
Diversion to Powerhouse	Gated intake to 638-ft steel flow line; 2-mile concrete canal; small forebay; 2 steel penstocks	Three penstocks at the dam	Wood-stave flow line and rock tunnel to two steel penstocks	Gated intake tower to penstock at dam
Number of Turbines	2	2	2	1
Turbine Type	Vertical Francis	Horiz. Francis	Vertical Francis	Vert. Francis
Turbine Generator Nameplate Capacity (MW)	Unit 1: 40 Unit 2: 40	Unit 1: 10 Unit 2: 10	Unit 1: 13.5 Unit 2: 13.5	18
Total Nameplate Generating Capacity (MW)	80	20	27	18
Gross Head (ft) at Powerhouse	463	123	152	158
Total Turbine Hydraulic Capacity (cfs)	Rated: 2,850 Max: 3,000 Min: Unit 1: 344 Unit 2: 407	Rated: 3,200 Max: 3,560 Min: Unit 1: 241 Unit 2: 467	Rated: 3,200 Max: 3,250 Min: 258	Rated: 1,550 Max: 1,735 Min: 296
Powerhouse Construction	Reinforced concrete structure	Reinforced concrete substructure with a concrete and steel superstructure	Reinforced concrete structure	Reinforced concrete structure

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Transmission Lines				
Line Designation	98	15, 26-1, 26-2	None	62
Length (mi)	0.24	1.23, 0.7, 0.7	None	6.55
Voltage (kV)	69	69, 69, 69	None	69
Interconnections	Plant to tap on line 18	Line 15 from Copco No. 1 switchyard to Copco No. 2 plant, line 26-1 from Copco No. 1 plant to switchyard, line 26-1 from Copco No. 1 plant to switchyard	None	Plant to Copco No. 2